

Biological Agent Reference Sheet (BARS)

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BIOLOGICAL AGENT REFERENCE SHEET
Human Immunodeficiency Virus (HIV) in Research and Healthcare settings

CHARACTERISTICS	
<i>Morphology</i>	Family: Retroviridae, Genus: <i>Lentivirus</i> . ssRNA, enveloped icosahedral nucleocapsid, of approximately 100 to 110 nm in diameter. Strains: HIV-1 and HIV-2.
<i>Growth Conditions</i>	Cell culture

HEALTH HAZARDS	
<i>Host Range</i>	Humans
<i>Modes of Transmission</i>	In general, HIV is spread by close sexual contact or parenteral exposure through blood or blood products, including transfusion. Mother-child transmission can occur during pregnancy, delivery or breastfeeding.
<i>Signs and Symptoms</i>	Non-specific symptoms such as lymphadenopathy, anorexia, chronic diarrhea, weight loss, fever, and fatigue; opportunistic infections and malignant diseases without a known cause for immune deficiency.
<i>Infectious Dose</i>	Unknown
<i>Incubation Period</i>	Variable

MEDICAL PRECAUTIONS / TREATMENT	
<i>Prophylaxis</i>	Post exposure prophylaxis is available.
<i>Vaccines</i>	None
<i>Treatment</i>	Antiretroviral agents are available.
<i>Surveillance</i>	Clinical follow-up and confirmation of diagnosis by serology or viral titers
<i>Emory Requirements</i>	Report

LABORATORY HAZARDS	
<i>Laboratory Acquired Infections (LAIs)</i>	Needle stick, contaminated sharp objects, direct contact of non-intact skin or mucous membranes with HIV-infected specimens/tissues.
<i>Sources</i>	Blood; concentrated virus in a laboratory; visibly bloody fluid; other body fluids (semen, CSF, vaginal); unscreened or inadequately treated blood products.

SUPPLEMENTAL REFERENCES	
<i>Canadian MSDS</i>	http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/hiv-vih-eng.php
<i>BMBL: 5th Edition</i>	http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf
<i>CDC Guidelines</i>	http://www.cdc.gov/HAI/pdfs/bbp/Exp_to_Blood.pdf

CONTAINMENT REQUIREMENTS	
<i>BSL-2</i>	Work involving clinical specimens and non-culture procedures
<i>BSL-2+BSL3 practices or BSL3</i>	<i>In vitro</i> culture of competent virus (replication), and manipulation of concentrated virus.
<i>ABSL-2</i>	Work with NHPs or other animals inoculated with HIV, and their specimens.

SPILL PROCEDURES	
<i>Small</i>	Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply an EPA registered disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before disposal and cleanup of spill materials.
<i>Large</i>	Contact Emory's Biosafety Officer (404-727-8863), the EHSO Office (404-727-5922), or The Spill Response Team (404-727-2888).

EXPOSURE PROCEDURES		
<i>Mucous membrane</i>	Flush eyes, mouth or nose for 15 minutes at eyewash station.	
<i>Other Exposure</i>	Wash area with soap and water for 15 minutes.	
<i>Reporting</i>	All work incidents (major or minor) must be reported to Occupational Injury Management. Complete an incident report using Self Service through Emory Peoplesoft (https://hrprod9.emory.edu)	
<i>Medical Follow up</i>	7am-4pm (OIM): EUH (404-686-7941) EUHM (404-686-7106) WW (404-728-6431)	After Hours: OIM NP On Call 404-686-5500 PIC# 50464
	Needle Stick (OIM): EUH (404-686-8587) EUHM (404-686-2352)	Yerkes: Maureen Thompson Office (404-727-8012) Cell (404-275-0963)

VIABILITY	
<i>Disinfection</i>	Fresh 2% glutaraldehyde, 1% sodium hypochlorite
<i>Inactivation</i>	HIV is inactivated by ultraviolet (UV) light, in close proximity; cell-free medium; pH higher or lower than 7.1; temperature higher than 60C for at least 30 min
<i>Survival Outside Host</i>	Contaminated blood at room temperature for 42 days, and in blood and cerebrospinal fluid from autopsies for up to 11 days.

PERSONAL PROTECTIVE EQUIPMENT (PPE)	
<i>Minimum PPE Requirements</i>	At minimum, personnel are required to don gloves, closed toed shoes, lab coat, and appropriate face and eye protection prior to working with <i>HIV</i> . Additional PPE may be required depending on lab specific SOPs.
<i>Additional Precautions</i>	Extreme care must be taken to avoid spilling and/or splashing infected materials. HIV should be presumed to be in/on all equipment and devices coming in direct contact with infected materials.